CLAIMS

1. A compound of formula (I) or a pharmaceutically acceptable salt thereof:

$$R^{1} - N \xrightarrow{\left(R^{4}\right)_{m}} O \xrightarrow{\left(R^{3}\right)_{p}} N \xrightarrow{\left(R^{3}\right)_{p}} N$$

$$(I)$$

5 wherein:

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R¹ represents aryl, heteroaryl,-aryl-X-aryl, -aryl-X-heteroaryl, -aryl-X-heterocyclyl, -heteroaryl-X-heteroaryl, -heteroaryl-X-aryl or –heteroaryl-X-heterocyclyl; wherein said aryl, heteroaryl and heterocyclyl groups of R¹ may be optionally substituted by one or more (e.g. 1, 2 or 3) substituents which may be the same or different, and which are selected from the group consisting of halogen, hydroxy, cyano, nitro, oxo, haloC₁₋₈ alkyl, polyhaloC₁₋₈ alkyl, haloC₁₋₈ alkoxy, polyhaloC₁₋₈ alkoxy, C₁₋₈ alkyl, C₁₋₈ alkyl, C₁₋₈ alkyl, C₁₋₈ alkylsulfonyl, C₁₋₈ alkylsulfonyl, C₁₋₈ alkylsulfonyl, C₁₋₈ alkylsulfonyloxy, C₁₋₈

alkylsulfonylC₁₋₈ alkyl, C₁₋₈ alkylsulfonamidoC₁₋₈ alkyl, C₁₋₈ alkylamidoC₁₋₈ alkyl, aryl, arylsulfonyl, arylsulfonyloxy, aryloxy, arylsulfonamido, arylcarboxamido, aroyl, or a group –COR¹⁵, -COOR¹⁵, NR¹⁵R¹⁶, -CONR¹⁵R¹⁶, -NR¹⁵COR¹⁶, -NR¹⁵SO₂R¹⁶ or -SO₂NR¹⁵R¹⁶, wherein R¹⁵ and R¹⁶ independently represent hydrogen, C₁₋₈ alkyl, haloC₁₋₈ alkyl, polyhaloC₁₋₈ alkyl or C₃₋₈ cycloalkyl or together form a heterocyclic ring;

20 X represents a bond, O, CO, SO₂, OCH₂ or CH₂O;

 R^2 represents C_{3-8} alkyi, C_{3-6} alkenyi, C_{3-6} alkynyi, C_{3-6} cycloalkyi, C_{5-6} cycloalkyi; C_{3-6} cycloalkyi;

wherein said C_{3-8} cycloalkyl groups of R^2 may be optionally substituted by one or more (e.g. 1, 2 or 3) substituents which may be the same or different, and which are selected from the group consisting of halogen, C_{1-4} alkyl or trifluoromethyl groups;

each R³ and R⁴ group independently represents C₁₋₄ alkyl;

m and n independently represents 0, 1 or 2;

p and q independently represents 1 or 2;

or a pharmaceutically acceptable salt thereof.

2. A compound of formula (I) as defined in claim 1 wherein R¹ represents -aryl optionally substituted by a cyano, -CONR¹⁵R¹⁶, -COR¹⁵, halogen or -NR¹⁵COR¹⁶ group;

-heteroaryl optionally substituted by a cyano, C₁₋₆ alkyl, polyhaloC₁₋₆ alkyl, – CONR¹⁵R¹⁶, -COR¹⁵ or –COOR¹⁵ group;

-arvl-X-heterocyclyl;

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-aryl-X-heteroaryl optionally substituted by a halogen, C₁₋₈ alkyl or aryl group; or -heteroaryl-X-heterocyclyl.

3. A compound of formula (I) as defined in claim 2 wherein R¹ represents pyrid-3-yl optionally substituted by a -CONR¹⁵R¹⁶ group, -phenyl-1,2,4-oxadiazol-5-yl optionally substituted by a C₁₆ alkyl group, phenyl optionally substituted by a -COR¹⁶ group, pyridazin-3-yl optionally substituted by a polyhaloC₁₆ alkyl group, pyrazin-2-yl optionally substituted by a polyhaloC₁₆ alkyl group.

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4. A compound of formula (I) as defined in claim 3 wherein R¹ represents pyrid-3-yl optionally substituted by a 6–CON(H)(Me) or 6–CON(H)(Et) group, 3-methyl-1,2,4-oxadiazol-5-yl, phenyl optionally substituted by a 4–COMe group, pyridazin-3-yl optionally substituted by a 6–CF₃ group or pyrimidin-5-yl optionally substituted by a 2–CF₃ group.

- 5. A compound of formula (I) as defined in any one of claims 1 to 4 wherein m and n represent 0.
- 20 6. A compound of formula (I) as defined in any one of claims 1 to 5 wherein p and q represent 1.
 - 7. A compound of formula (I) as defined in any one of claims 1 to 6 wherein R^2 represents C_{3-8} alkyl, C_{3-6} cycloalkyl or $-C_{1-4}$ alkyl- C_{3-6} cycloalkyl.
 - 8. A compound of formula (I) as defined in claim 7 wherein R^2 represents 1-methylpropyl, isopropyl, cyclobutyl or $-CH_2$ -cyclopropyl.
- 9. A compound of formula (I) as defined in claim 8 wherein R² represents isopropyl or cyclobutyl.
 - 10. A compound as defined in claim 1 which is a compound of formula E1-E120 or a pharmaceutically acceptable salt thereof.
- 11. A compound as defined in claim 1 which is
 1-(1-Methylethyl)-4-({1-[4-(3-methyl-1,2,4-oxadiazol-5-yl)phenyl]-4-piperidinyl}oxy)piperidine;
 5-{4-[(1-Cyclobutyl-4-piperidinyl)oxy]-1-piperidinyl}-N-methyl-2-pyridinecarboxamide;
 1-(4-{4-[(1-Cyclobutyl-4-piperidinyl)oxy]-1-piperidinyl}phenyl)ethanone;
- 40 3-{4-[(1-Cyclobutyl-4-piperidinyl)oxy]-1-piperidinyl}-6-(trifluoromethyl)pyridazine; or 5-{4-[(1-Cyclobutyl-4-piperidinyl)oxy]-1-piperidinyl}-2-(trifluoromethyl)pyrimidine or a pharmaceutically acceptable salt thereof.

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- 12. A pharmaceutical composition which comprises the compound of formula (I) as defined in any one of claims 1 to 11 or a pharmaceutically acceptable salt thereof and a pharmaceutically acceptable carrier or excipient.
- 13. A compound as defined in any one of claims 1 to 11 for use in therapy.
- 14. A compound as defined in any one of claims 1 to 11 for use in the treatment of neurological diseases.
- 15. Use of a compound as defined in any one of claims 1 to 11 in the manufacture of a medicament for the treatment of neurological diseases.
- 16. A method of treatment of neurological diseases which comprises administering to a host in need thereof an effective amount of a compound of formula (I) as defined in any one of claims 1 to 11 or a pharmaceutically acceptable salt thereof.
 - 17. A pharmaceutical composition for use in the treatment of neurological diseases which comprises the compound of formula (I) as defined in any one of claims 1 to 11 or a pharmaceutically acceptable salt thereof and a pharmaceutically acceptable carrier.
 - 18. A process for the preparation of a compound of formula (I) or a pharmaceutically acceptable salt thereof, which process comprises:
 - (a) reacting a compound of formula (II)

$$H-N \xrightarrow{\left(R^{4}\right)_{m}} O \xrightarrow{\left(R^{3}\right)_{r}} \left(R^{3}\right)_{r}$$

$$\left(H\right)$$

- wherein R^2 , R^3 , R^4 , m, n, p and q are as defined in claim 1, with a compound of formula R^1 -L¹, wherein R^1 is as defined in claim 1 and L¹ represents a suitable leaving group, such as a halogen atom; or
 - (b) reacting a compound of formula (III)

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wherein R^1 , R^3 , R^4 , m, n, p and q are as defined in claim 1, with a compound of formula R^2 -L² where R^2 is as defined in claim 1 and L² represents a suitable leaving group, such as a halogen atom or a sulfonate such as methanesulfonate; or

- (c) reacting a compound of formula (III) as defined above with a compound of formula H-R²=O under reductive conditions, wherein R² is as defined in claim 1 for R² or a group convertible thereto; or
- (d) preparing a compound of formula (I) wherein p represents 1 which comprises reduction of a compound of formula (IV)

$$R^{1}$$
 N $(R^{4})_{m}$ O L^{3} $(R^{3})_{n}$ N^{*} R^{2} (IV)

wherein R¹, R², R³, R⁴, m, n and q are as defined in claim 1 and L³⁻ represents a suitable counter ion such as a halogen atom; or

- (e) deprotecting a compound of formula (I) or converting groups which are protected; and optionally thereafter
- (f) interconversion to other compounds of formula (I).

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